

thing I haven't done in the GloFish research department is invite them into my home. So here I am, ready to take the plunge. I grab the special GloFish aquarium and am about to pick out some plain gray stones to put in the bottom of the tank, but my boyfriend spots a bag of mixed gravel in hues that look like they belong on a tie-dyed T-shirt. "You should get those," he says.

"Won't that be tacky?"

"You're getting genetically modified, fluorescent fish," he says. "Don't you think that ship has sailed?"

I might as well go all in. I grab the fluorescent gravel and some neon plastic plants.

Then it's over to the corner tank that GloFish call home. They're swimming around in a hallucinogenic jumble, and I ask a clerk to corral six of them for me: two Electric Greens, two Starfire Reds, and two Sunburst Oranges. (At \$5.99 each, I am stocking an aquarium with next-gen pets for less than \$40—far less than the cost of my Cavapoo.) An employee plops the fish into a plastic bag filled with water. I hold the bag up to my face and come eye-to-eye with the doctored fish. They continue their openmouthed stares, hovering silently in the water. I don't exactly fear for the fate of the Earth. ("You'd think they were six feet long with fangs and they'd bite your head off, the way they've been portrayed," Blake once told me.)

I tote them home and set up the tank up in my living room. Under the blue light coming from the bulb, the GloFish gleam like jewels. I don't know if they're happy, but they certainly don't appear to be suffering. Neither am I—it's entrancing to watch them swimming around, a kaleidoscope in constant motion. These fish may be frivolous, but they're just a teaser, a preview of the coming attractions. If we can get black-and-white fish to glow neon red, green, and orange, what else can we get animal bodies to do?

2. Got Milk?



When scientists first learned how to edit the genomes of animals, they began to imagine all the ways they could use this new power. Creating brightly colored novelty pets was not a high priority. Instead, most researchers envisioned far more consequential applications, hoping to create genetically engineered animals that saved human lives. One enterprise is now delving on this dream. Welcome to the world of "pharming," in which simple genetic tweaks turn animals into living pharmaceutical factories.

Many of the proteins that our cells crank out naturally make for good medicine. Our bodies' own enzymes, hormones, clotting factors, and antibodies are commonly used to treat cancer, diabetes, autoimmune diseases, and more. The trouble is that it's difficult and expensive to make these compounds on an industrial scale, and as a result, patients can face shortages of the medicines they need. Dairy animals, on the other hand, are expert protein producers, their udders swollen with milk. So the creation of the first transgenic mammals—first mice, then other species—in the 1980s gave